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October 1945

# Standardization

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New  
Standards  
for

Circuit Breakers

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Some 2,000 industrial concerns hold membership either directly or by group arrangement through their respective trade associations

## Readers Write

### Congratulation on Corrosive-Resistant Gloves

Ford Instrument Company, Inc.

Gentlemen: The job performed on the American War Standard Specification for Corrosive-Resistant Gloves is excellent.

The only comment I could possibly make would be to praise you men on the thoroughness of the job.

T. R. LEADBEATER  
Safety Manager

### ASA Library Catalog

Logansport Machine Company, Inc.

Gentlemen: We would appreciate your advising us if you furnish a catalog of the publications in your library and if it is available.

L. L. AUSTIN  
Secretary

• • The American Standards Association has something like 25,000 standards, books, and related documents in its library, including the national standards of other countries. No catalog is available, but each month the titles of new standards and material received by the library are listed in *INDUSTRIAL STANDARDIZATION*.

### From Denmark

Dansk Standardiseringsraad  
Copenhagen, Denmark

Gentlemen: We want to take the opportunity to express our joy that the world is now free again, and that as a free nation—thanks to the admirable efforts of the Allies—can now repair the broken connection with our friends in the standardizing organizations of the free world. We are anxious to re-establish the regular exchange of publications and to get acquainted with the American Standards which have been issued since the connection between our organizations was broken. We shall therefore be thankful to receive these publications and we are ready in exchange to send you three copies of the Danish Standards which have been issued during the war.

O. WEINCKE

### From Czechoslovakia

Ceskoslovenska Spolecnost Normalizace By Radio to American Standards Association: Czechoslovakian Standard Association sends you from its first general meeting after liberation friendly greetings and wishes of close cooperation.

PRAGONOMMA

### By Letter:—

Gentlemen: The occupation of our country by the German invaders in 1939 has put our society under the

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exclusive control of the Deutscher Normenausschuss for more than six years and the second World War has broken our connections with almost all other standardizing bodies.

Now that—thanks to the brilliant victory of the allied American, British, and Russian armies—our country is again free, we are anxious to renew the old friendly connections with you and with other standardizing bodies of the allied nations. We should like to know what has happened in the meantime in American standardization, for our own information as well as for the members of our special committees, and of our industry.

We should be very obliged to you if you would send us all American Standards published in the years 1939 to 1945, as well as your latest list of American Standards.

ČESKOSLOVENSKA SPOLEČNOST  
NORMÁLISACNI

• • The American Standards Association is sending copies of all American Standards and American War Standards approved since 1939 to the Danish and Czechoslovakian standards associations, as well as to others as contact is re-established.

### Safety for Prison Workers

Department of Justice,  
Bureau of Prisons

Gentlemen: I am enclosing herewith a list of the Penal and Correctional Institutions operated by the Bureau of Prisons and will appreciate it if you will forward one copy of your Pamphlet PM-87 descriptive of the safety codes published by the American Standards Association to the Warden or Superintendent of each of the institutions listed, in order that they may order such of the safety codes as refer to industrial work processes in use at their institutions.

RAY D. NESTER,  
Safety Engineer

• • The American Standards Association was pleased to send these safety pamphlets to the list of organizations provided by Mr. Nester.

### The Front Cover

This picture shows a recent installation of outdoor oil circuit breakers of the conventional tank type.

In addition to oil circuit breakers, the five new American Standards for Alternating-Current Power Circuit Breakers provide specifications and methods of test for circuit breakers using liquids other than oil, and for air circuit breakers. A method of determination of rms values, tables of preferred power circuit breaker ratings, standard operating duty for reclosing service, standard rated control voltages, and a test code are included.

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## Contents

	PAGE
<b>Electrical—</b>	
Important New Data in Standards for A-C Power Circuit Breakers. By H. R. Summerhayes and G. Sutherland.....	221
Standards for Linemen's Safety. By Gordon Thompson.....	225
<b>Engineering Terms—</b>	
American Edition of Engineering Dictionary.....	224
<b>Gypsum Concrete—</b>	
1945 Edition of Gypsum Concrete Standard.....	231
<b>International—</b>	
New Canadian Standards Refer to American Standards.....	224
Conference on Screw Threads Reaches Basic Agreements.....	223
British Commerce Group Wants Decimal Coinage.....	231
<b>Labeling—</b>	
Labeling Variations.....	231
<b>Mechanical—</b>	
Conference on Screw Threads Reaches Basic Agreements.....	223
<b>Paper—</b>	
Single Standard Proposed for Measuring Paper.....	231
<b>Safety—</b>	
Standards for Linemen's Safety. By Gordon Thompson.....	225
<b>Savings from Standardization—</b>	
Spheroidizing Practice Standardized.....	224
<b>Association and Government Standards—</b>	
New Specifications and Tests Recently Accepted by ASTM....	227
National Bureau of Standards Acts on Standards and Recommendations .....	229
<b>American Standards Association—</b>	
Personnel—	
New Members on Standards Council.....	224
ASA Standards Activities—	
American Standards.....	230
American War Standards.....	230
Annual Meeting.....	231
Statement of Ownership.....	231
<b>The Pictures—</b> Cover, 122—General Electric; Frontispiece, 225—W. H. Salisbury Co.; 227—Electrical Testing Labs.	

October, 1945

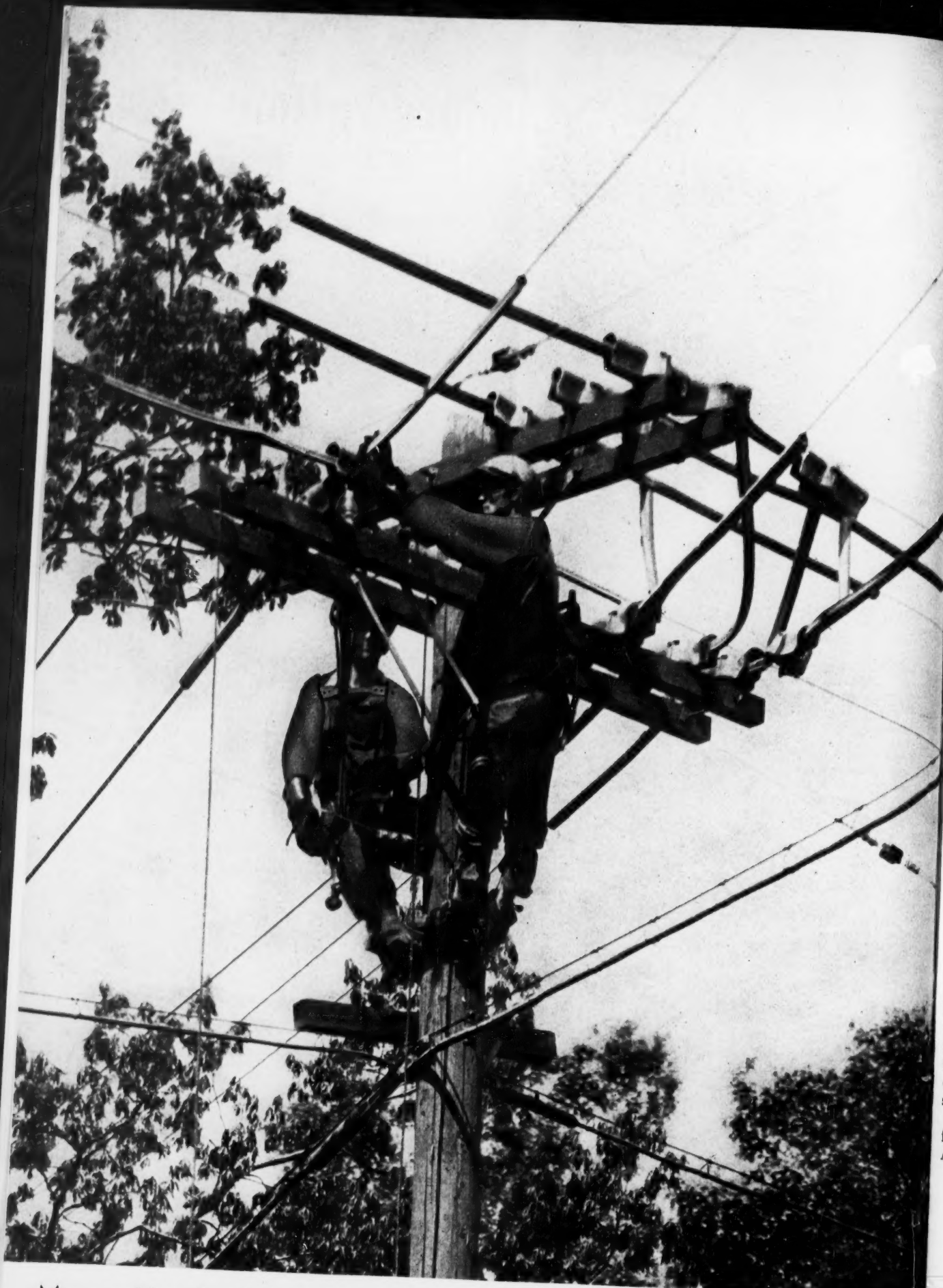
Ruth E. Mason, Editor

35 Cents

Standardization is dynamic, not static. It means  
not to stand still, but to move forward together.

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Men repairing electric lines wear electrically resistant gloves and sleeves, and cover live wires with linehose and insulator hoods

(See article on standard performance requirements for line protective equipment, page 2)

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# Important New Data in Standards For A-C Power Circuit Breakers

More economical production will result from use of new tables of preferred circuit breaker ratings—reducing the number of ratings and making quantity production possible. Five new standards, published in one document, give indispensable data on testing, rating, performance.

**By**

**H. R. Summerhayes  
and G. Sutherland**

THE American Standards for Alternating-Current Power Circuit Breakers, C37.4-1945 through C37.9-1945 inclusive, were approved by the American Standards Association in May and have now been received from the printer, grouped in a single paper-bound publication. This is the third such project completed by the ASA Sectional Committee on Power Switchgear. It is a revision of the proposed Standard and Recommended Practices (C37.4 through C37.9) printed in January 1941, for trial use and criticism, by the American Standards Association. This revision incorporates much new material from AIEE Standard 19-1943, which it will supersede.

## What It Covers

A-c power circuit breakers are defined, for the purpose of this standard, as comprising such of the following as have rated voltages higher than 600 volts:

- (a) Oil circuit breakers
- (b) Circuit breakers using liquids other than oil
- (c) Air circuit breakers

Thus, virtually all oil circuit breakers are covered. In addition, high-voltage a-c circuit breakers of oilless types (e.g., air circuit breakers, and breakers using liquids other than oil) and breakers of the low oil-content type are governed by this standard.

Bound into the same publication, for convenience, are the following American Standards:

Alternating-Current Power Circuit Breakers, C37.4-1945  
Method of Determination of RMS Values, C37.5-1945 (This material was an appendix to AIEE Standard 19-1938.)  
Tables of Preferred Power Circuit Breaker Ratings, C37.6-1945 (Material changed from 1941 publication.)  
Standard Operating Duty for Reclosing Service, C37.7-1945  
Standard Rated Control Voltages (and

their ranges), C37.8-1945 (Adoption of this as an American Standard should have a healthy stabilizing influence that may extend to other classes of electrically operated or controlled equipment.)

Test Code for Power Circuit Breakers, C37.9-1945

## New Features, As Compared with AIEE Standard 19-1943

Although the 1943 AIEE Standard included a general table of impulse test voltages, the corresponding tables in the new American Standards show test voltages not only for available but also for future contemplated voltage ratings.

The major novel feature, not found in any previous national standard (other than those of the National Electrical Manufacturers Association) is the inclusion of tables of preferred circuit breaker ratings. Adherence to these preferred ratings (printed in bold face type) by users and manufacturers should result in economy to both, as compared with previous practice. Whenever a manufacturer, at the insistence of a good customer, yields to the temptation to build a circuit breaker (or other piece of equipment) of other than standard construction when equipment of standard rating will meet the requirements, the entire industry suffers. By purchasing circuit breakers of standard ratings, the number of ratings that must be built is reduced and the quantity of standard-rated breakers is increased. This makes quantity production possible, with consequent reduced cost.

Most of the credit for this reduction in the number of standard ratings of circuit breakers is due to the EEI-AEIC-NEMA Joint Committee on Power Circuit Breakers. Subject to the approval of the sectional committee (C37) and its Power Circuit Breaker Subcommittee, the "Triple-Joint Committee" decided what rat-

ings could safely be eliminated and still allow good application coverage for power systems.

None of the material covered by American Standards C37.5-1945 to C37.9-1945, inclusive, appeared in AIEE Standard 19-1943.

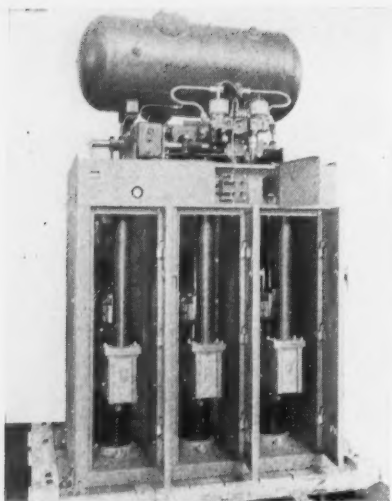
## Principal Changes Since 1941

In American Standard C37.4-1945, which is the counterpart of AIEE 19-1943, the following notable changes appear, as compared with the proposed standard, C37.4/9, published by the ASA in 1941.

1. Service conditions have been written to agree with AIEE Standard 1B, May, 1944. When the circuit breaker is of suitable construction as specified in the standard and the altitude does not exceed 3300 ft, operation of the breaker itself in air

**H. R. Summerhayes**, Consulting Engineer, Central Station Engineering Division, General Electric Company, was chairman of the Sectional Committee on Power Switchgear, C37, at the time the new alternating-current circuit breaker standards were being developed. Mr. Summerhayes is the representative of the American Institute of Electrical Engineers on the committee.

**G. Sutherland**, Assistant Manager, Outside Plant Construction Department, Consolidated Edison Company of New York, Inc., is the new chairman of this committee. Mr. Sutherland represents the Electric Light and Power Group on the committee.



One type of high-voltage a-c air circuit breaker showing compressed-air operating mechanism, with cubicle doors open and covers of mechanism removed.

temperatures as high as 55 C is now permissible (instead of 40 C), with the same permissible temperature rises as previously. In the temperature tests of such circuit breakers mounted in enclosures, the average air temperature may be measured inside the enclosure and the standard rise above this average inside temperature is permitted for the breaker; or the ambient temperature may be measured outside the enclosure, in which case the standard rise is allowed above this outside ambient plus 15 C. Suitable construction for such performance is provided if the circuit breakers have all contacts silver surfaced or equivalent, and in addition have all conducting joints, including terminal connections, either

- (1) soldered or silver surfaced and separately held mechanically, or
- (2) brazed, welded, or silver soldered, and provided that such operation does not result in total temperatures in excess of 90 C for Class O, 105 C for Class A, and 125 C for Class B insulations.

2. Wet dielectric tests for complete outdoor circuit breakers have been eliminated because a wet dielectric test affords no additional information on the adequacy of design of the interior of the circuit breaker, beyond what is revealed by the dry low-frequency and impulse tests. Bushings used in power circuit breakers must, however, meet AIEE Standard 21-1942, which includes a 10 second wet (withstand) low frequency dielectric test.

3. Power circuit breaker nameplates will now be required to show the rated interrupting current at rated voltage, as well as the rated impulse withstand voltage. The latter requirement was also found in AIEE Standard 19-1943.

4. For the first time in any national standard, it is recommended that "a" auxiliary switches be shown on electrical diagrams as normally open contacts. Conversely, "b" auxiliary switches are to be shown as normally closed contacts.

5. Most of the definitions have been omitted, except for those peculiar to circuit breakers. All other definitions will be

found in the American Standard Definitions of Electrical Terms, C42-1941.

In American Standard C37.6-1945, the schedule of preferred ratings for power circuit breakers has been subdivided into four tables; viz:

- Table 1. Indoor Oil
- Table 2. Indoor Oilless
- Table 3. Outdoor Oil
- Table 4. Outdoor Oilless and Low Oil Content.

The minimum operating voltage and the insulation test voltages have been added, for convenience, to all tables and the rated interrupting time, in cycles, is also indicated. These tables therefore serve as a complete guide to the selection of circuit breakers. Bold face type is used for ratings now available. Italics are used for ratings that are only listed as a guide for future development, if and when required. All ratings in Table 4, for instance, are in italics.

It will be noted that the 5-second rating is now to be numerically equal to the maximum interrupting current rating in all cases.

In Table 1, only 28 standard ratings remain, compared with 41 appearing in the January, 1941, publication, and the table includes only breakers rated 5 kv or higher. Only 20 of these are bold face (recommended) ratings.

Tables 2 and 4 had no exact counterpart in the January, 1941 publication.

Although still containing 48 ratings as previously, Table 3 contains numerous changes. The ratings now

standard include more circuit breakers of high interrupting rating than hitherto. Ratings of 3,500,000 kva for future development are listed for 138 kv and higher voltages, and of 5,000,000 kva for 287.5 kv and above.

For breakers rated 115 kv and above, the 800 ampere rating is now standard, instead of 600 and 1200 amperes, except that two 1200 ampere ratings are retained (one each in the 115 kv and 161 kv classes). For breakers rated 230 kv and above, the 800 ampere rating is the only one listed.

In the 115 kv class, instead of four ratings, only three are now listed. The 500,000 kva and 1,000,000 kva breakers are no longer standard, but a 2,500,000 kva breaker is now listed.

In the 138 kv class, there are likewise only three breaker ratings listed instead of four. The 750,000 kva breaker is no longer standard, but breakers of 1,500,000, 2,500,000, and 3,500,000 kva are now listed.

In the 161 kv class, three are listed as compared with two previously. The new listings are for 2,500,000 kva and 3,500,000 kva. The 1,500,000 kva breaker is no longer listed.

The bibliography following the test code (C37.9-1945) has been materially expanded, and minor changes made in the test code itself.

With the comprehensive coverage included in this group of standards, it promises to be the most widely used publication in this country on power circuit breaker performance and testing.

The five new American Standards for Alternating-Current Power Circuit Breakers were prepared by the Sectional Committee on Power Switchgear, C37, representing both manufacturers and users. The members of the committee at the time the standards were prepared were:

H. R. Summerhayes, American Institute of Electrical Engineers, *Chairman*  
G. S. Lunge, American Institute of Electrical Engineers, *Secretary*  
American Institute of Electrical Engineers, *W. S. Edsall; Philip Sporn; H. R. Summerhayes; R. C. Van Sickle; G. S. Lunge (alternate)*  
Association of American Railroads, Engineering Division, Electrical Section, *S. R. Negley*  
Association of American Railroads, Mechanical Division, Electrical Section, *George T. Johnson*  
Association of Iron and Steel Engineers, *F. W. Cramer; D. I. Bohn (alternate); F. O. Schnure (alternate)*  
Electric Light and Power Group, *J. H. Foote; R. T. Henry; M. S. Oldacre; George Sutherland; H. E. Kent (alternate)*  
National Electrical Manufacturers Association, *V. L. Cox; J. S. Lawson; J. B. MacNeill; H. H. Rudd; G. V. Smith; C. B. Springer; R. M. Spurck*  
Underwriters' Laboratories, Inc., *R. B. Shepard; M. M. Brandon (alternate)*  
U. S. War Department, *W. K. Cave*

Copies of the American Standards for Alternating Current Power Circuit Breakers, C37.4-1945 through C37.9-1945, in one volume, are available from the American Standards Association at \$1.25.



# Conference on Screw Threads Reaches Basic Agreements

THE Conference on the Unification of Engineering Standards held under the auspices of the Combined Production and Resources Board at Ottawa, Canada, from September 24 through October 6, brought together many notable engineers of the United States, United Kingdom, and Canada. During the course of the discussions, which included the subjects of screw threads, pipe threads, drawing practice, metrology and limits and fits, a solid basis for agreement was reached on many aspects of these highly technical problems. It is anticipated that proposals on specifications will be developed on the basis of agreements reached by the delegates through the normal machinery which exists in the various countries for this purpose.

## Basic Thread Form Recommended

The fundamental differences between British and American screw thread forms, which caused tremendous production and supply difficulties during the war, were resolved to the point where the delegates were prepared to return to their respective countries with a specification for a basic thread form that would provide a unified standard for all countries employing the "inch" system. This basic form retains the best features of the present forms and at the same time a series of associated diameters and pitches have been worked out which it is believed will simplify existing practice and yet provide an adequate range of choice for all general requirements. It is also felt that the proposed change would involve the minimum amount of departure from existing practice consistent with the obtaining of the object in view—a common standard for general purpose threads to the inch system of measurement. The proposal on a basic thread form was by far the most outstanding accomplishment of the conference and exemplifies the spirit of collaboration that prevails among the engineering professions of the three countries.

## Agree on Standards for Acme Threads

Hardly less noteworthy is the agreement reached at the Conference

National standards associations are expected to use agreements as basis for national standard specifications on screw threads, pipe threads, drawing practice, metrology, and limits and fits.

on Acme and Stub-Acme threads. It is this type of thread that is extensively used on aircraft, machine tools, and other mechanical devices where a traverse motion is required. While these specifications will be submitted to industry in the three countries through the national standards bodies, representatives of the three countries attending the conference feel certain that what they term an A-B-C Standard will be speedily approved.

The delegates to the conference reached a mutual understanding on specifications for small screws such as are used in watches and clocks. Repair of these items, as many laymen know, has been often complicated due to the lack of unified standards for the small screws used for fastening delicate parts, and this step taken at Ottawa should ultimately prove of great value in the years to come. An understanding was also reached on threads for microscope lenses, and it was decided that steps should be immediately taken to write unified standards for all threaded parts for cameras, including the screw thread for mounting on tripods. Agreement was reached on a specification for fine motion screw threads, such as are employed in micrometers. The greatest spirit of cooperation was shown by the delegates of the three countries and plans to further resolve differences in specifications for various screws used in optical, electrical, and scientific instruments, are already under way.

## More Work Needed on High Duty Studs

In what might be termed special thread forms, engineers from the three countries reached an understanding on certain specification aspects of the Buttress thread form. It is this type of thread that is used extensively on airplane propeller hubs and in other applications where

stresses are in one direction only. Considerable progress was made in the assembling of engineering data on high duty studs in light alloys but the diversity of practices, particularly between Great Britain and the United States, made it impossible to formulate definite recommendations for a unified practice. It was the consensus of the engineers present that a great deal of exploratory work was required in this field.

## "Exploratory" Work on Drawing Standards

The differences in drawing practices between the countries, particularly in the United Kingdom and the United States, have caused no little difficulty during the war. Discussions between Great Britain and the United States were initiated a year ago, and since that time a considerable exchange of data has taken place. A number of delegates mentioned delays of up to a year spent in re-drawing such equipment as bomb sights, Bren and Bofors guns designed in one country and required to be manufactured in another. Reference was again made to the case of the Merlin Rolls-Royce engine in the United States. It will be remembered that it was this excellent engine which powered the British Hurricanes and Spitfires that so successfully defended England during the first blitz of the war. The discussions on drawing practice held during the conference were termed "exploratory" in character. Considerable data were exchanged between engineers of the three countries and it was unanimously recommended that the subject should be pursued actively with a view toward unification of practice.

## To Continue Discussions on Pipe Threads

The meeting held on pipe threads, while not conclusive in its findings, resulted in an invitation to British

and Canadian representatives to continue discussions at the convention of the American Petroleum Institute in November. It is understood that this invitation will also be extended to valve and fitting manufacturers and others interested in this subject.

In somewhat the same category was the subject of limits and fits in engineering. While this subject has been studied in the three countries over a period of the last two years, only partial agreement was obtained due to the highly technical aspects of the problem coupled with the rather diversified practice to which each country is committed. It was decided, however, that further discussions toward reaching a more complete agreement were desirable and a meeting on this subject has been scheduled to take place in New York prior to the return of the British delegation.

Practices in precision measurement and gaging methods were included as a separate item on the agenda for the first time. Outlines of progress made in precision measurement were presented at the sessions held on this subject and suggestions were made which, it is hoped, will ultimately lead to the coordination of practices in the three countries. Data were also offered which outline proposed specifications for screw threads and connection details for gas cylinders.

The British delegation, numbering fifteen, plan to visit various industrial centers in Canada and the United States and are expected to leave for England sometime during the latter part of this month.

### New Canadian Standards Refer to American Standards

Another contribution toward international standardization was made recently when the Canadian Standards Association approved two new Canadian Standards for magnet wire.

The specification for Enamelled Round Copper Wire (C 84.1-1945) corresponds closely to a parallel specification of the American Standards Association in its provision for double enamelled wire. Features of the Canadian standard which are unique include the measurement of wire diameter by resistance in fine sizes, using a limit bridge; a short-time solvent test, and finer mandrel gradations in the flexibility test.

The second standard is for Vinyl Acetal Insulated Magnet Wire (C 84.2-1945). Its dimensions are based largely on the corresponding specification of the National Electrical Manufacturers Association (U. S.), and four grades of thickness of coating are included. In the TF (triple) grade the limits are somewhat broader than in the NEMA specifications, so as to equalize with the HF (heavy) grade and QF (quadruple) grade in the matter of range permitted on the different coatings.

### New Members on Standards Council

W. C. Crow, Assistant Deputy Director for Operations, Office of Marketing Services, Department of Agriculture, Washington, D. C., has been selected to serve as alternate representative of the Department on the Standards Council of the American Standards Association, succeeding C. W. Kitchen. Mr. Crow has been a member of the Sectional Committee on Loading Platforms at Freight Terminals and Warehouses, E12, since its formation in 1938.

Herbert Hoover of the Maryland Casualty Company has been designated by the National Conservation Bureau to act as an alternate to Holger Jensen on the Standards Council of the American Standards Association. He succeeds Carl G. H. Anderson who is being transferred to the West Coast. Mr. Hoover has been an alternate representative on the Highway Traffic Standards Committee of the American Standards Association since his election to it in 1942.

M. A. Seiler, Assistant Liaison Officer, Branch of Design and Construction, Bureau of Reclamation, Department of the Interior, Washington, D. C., has been appointed the Department's representative on the Standards Council of the American Standards Association. He served as alternate representative for the Department of the Interior previously. Mr. Seiler succeeds F. E. Wilhelm whose unexpired term ends December 31, 1947. D. S. Culver, Liaison Officer for the Branch of Design and Construction, will act as his alternate.

W. A. Anderson, who succeeds the late A. E. Hanson as Mechanical Su-

perintendent of the U. S. Government Printing Office, has been named to succeed Mr. Hanson as alternate representative of the U. S. Government Printing Office for Morris S. Kantorwitz, on the ASA Standards Council.

### Spheroidizing Practice Standardized

Correlation of a series of tests (234 charges) enabled the National Screw & Manufacturing Company to standardize spheroidizing practice, with consequent savings in man-hours and fuel, and with consistent high quality of product, declares H. L. Hopkins in a recent article in *Iron Age*. Six basic types of steel were investigated. Tests were run on coiled stock in radiant-tube cover-type furnaces, recognizing material analysis, rod diameter, charge weight, thermocouple location, and methods of testing and comparing test data. A range of temperatures and of soaking time was selected. Samples from top, middle, and bottom of the charge were tested for ultimate strength, yield point, elongation, and reduction in area, and the results were averaged. From final data it has been possible to set forth a single page of tabulated instructions, which, together with material analysis and charge weight, enable furnace operators to govern the treating cycle properly, Mr. Hopkins states.

### American Edition of Engineering Dictionary

American edition of *Dictionary of Engineering and Machine Shop Terms*, by A. H. Sandy, London. Published by the Chemical Publishing Company, Inc, 26 Court Street, Brooklyn 2, New York. Price \$2.75.

Mr. Sandy is Instructor and Lecturer in the Mechanical Engineering Department, Borough Polytechnic, London.

"It is well known that in the engineering world there are many common words and terms with shades of meaning peculiar to the industry," Mr. Sandy explains. "Into this volume have been condensed the meanings of a number of the important terms and words used in the industry gathered during many years of experience, both in industry, and as a lecturer, with the aim of supplying a long-felt need."



# Standards for Linemen's Safety

*By Gordon Thompson*

To protect linemen against injury through accidentally touching live wires, new performance specifications and tests for line hose, insulator hoods, leather protector gloves, and rubber blankets and hoods are now available.

THE devices which electrical linemen use to cover nearby live electrical parts in order to prevent electrical contact and minimize electrical shock while they are at work are usually made of a vulcanized rubber compound. With wartime shortages of rubber gum and of some of the compounding ingredients, however, the question arose to what extent substitute materials might be used without reducing the safety provided by the protective devices. To consider this question and to formulate such specifications as seemed feasible, the War Production Board asked the American Standards Association to set up a War Committee. A representative group was assembled by the ASA, designated as Committee J6.

As a result of the work of this committee, five standards which place a floor under quality and performance have now been approved for line hose, insulator hoods, leather protector gloves, rubber blankets, and rubber sleeves, respectively. In defining performance, the committee did not compromise safety for the purpose of permitting the use of substitute materials. On the contrary, it set up standards of performance which are as pertinent to peacetime conditions as to wartime.

When the committee started its work, accepted specifications with long standing in the industry existed only for linemen's rubber gloves (ASTM D 120-40; ASA C59.12-1942). A proposed specification for rubber matting had appeared among the standards of the American Society for Testing Materials for several years but had not been officially adopted. For the several other devices used by linemen a few central station companies had formulated their requirements but there were none with general acceptance.

For all these protective devices, rubber has the outstanding advantage of flexibility combined with good electrical insulating properties and a high degree of toughness. It tends to lose its flexibility with age,

**Gordon Thompson**, chief engineer, Electrical Testing Laboratories, Inc, is chairman of the committee on linemen's protective equipment, a subcommittee of the War Committee on Protective Occupational Clothing.

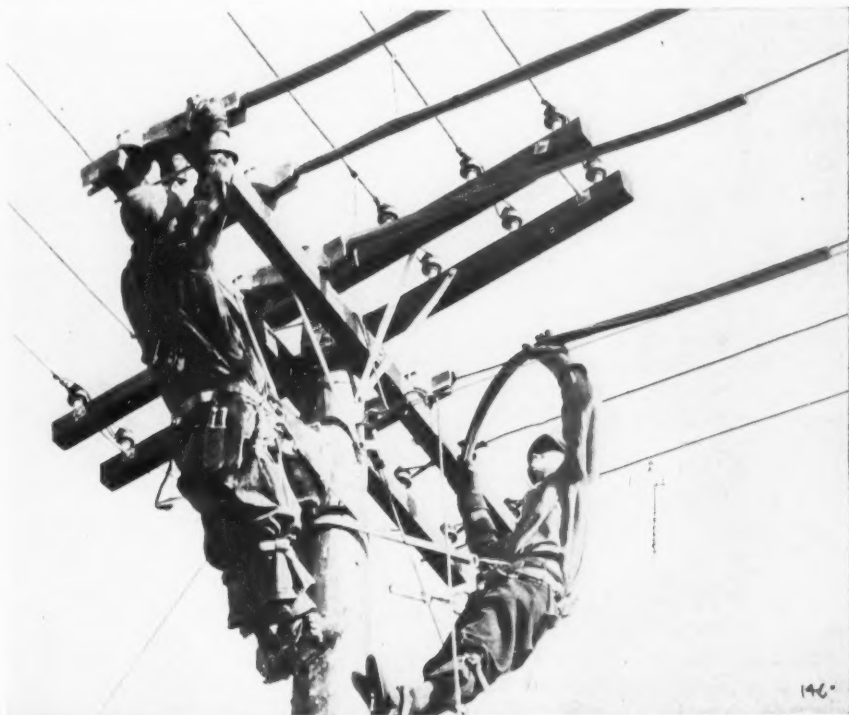
however, and it has a peculiar weakness whereby it rapidly develops hairline cracks and slits when exposed to electric corona discharge while under mechanical strain.

All of these properties are of prime importance in the case of linemen's gloves, which are his first line of defense and which, on the other hand, must offer a minimum of obstruction to the manipulations he must perform while wearing the gloves. Linemen frequently endanger their lives

by leaving off their rubber gloves in spite of the vigilance of their foreman, because, they say, the gloves are too stiff.

The committee reviewed the requirements of the American Standard Specifications for Electrical Gloves (ASTM D 120-40; ASA C59.12-1942) in the light of these considerations, and decided unanimously and promptly that no circumstances had yet arisen that indicated any needed change in the requirements of this standard. Certainly, it agreed, no reduction in requirements that might increase the hazard to the lineman's life could be countenanced. For this reason, it voted, all electrical gloves should continue to be manufactured in accordance with the requirements of the already existing American Standard specifications.

Rubber gloves are usually worn with pliable leather protector gloves drawn over them to furnish mechanical protection to the rubber gloves beneath. These leather protector gloves should never be depended upon to furnish any electrical protection. The new standard performance requirements for these gloves specify the size to fit over the rubber gloves; thickness to assure ade-



Linemen putting insulator hoods and line hose in place before starting work (Note use of rubber gloves as primary protection while installing insulator hoods and line hose.)

quate mechanical protection to the rubber glove and yet remain as flexible and pliable as possible, and to guard against excessive wear, and provisions against shrinkage.

After analyzing the problem to be solved for assuring safety for linemen using line hose, insulator hoods, and rubber blankets and sleeves, the committee decided that the specifications should be prepared on a performance basis. Specifications of the performance type with requirements to insure desired qualities offer a maximum of freedom to designer and manufacturer and yet produce satisfactory performance. They are especially suitable where new materials are being incorporated in the device and where, for that reason, previous service experience is lacking. More or less of construction details must always be used, of course, in order that the product may be entirely suited to the purpose.

#### **Hose, Blankets, Hoods, Form Secondary Line of Defense**

The lineman dons sleeves to protect his arms against accidental contact. Since this protective equipment is worn by the man, its safety responsibility is practically as great as that of the gloves, and the requirements should be similar. The hose which is slipped onto the electric lines, the hoods which cover the insulators, and the blankets which are laid across neighboring live parts, serve as the secondary line of defense for the electrical worker. When they are in place and his gloved hand or his sleeved arm comes against their outer surface, a two-step wall of insulation is interposed between his body and the electrified part.

For all of these devices high tensile strength is taken as an indication of toughness of the material of which the device is made, flexibility is insured by requiring adequate elasticity, and resistance to hardening with age is insured by stipulating the permissible maximum loss of tensile strength and elasticity when exposed to an artificial aging influence for a specified time.

Electrical strength should be tested without destroying more than a specimen of the material. On the other hand it is desirable that the electrical strength of each unit be demonstrated. Hence a proof-voltage test is required in these standards where the usefully active part of each unit is subjected to an electric stress which is not high enough to puncture the material or even to

strain it to the point where the useful life is perceptibly reduced. The test stress, however, is high enough above the working stress to give a reasonable factor of safety and the test stress is applied simultaneously over an area of the device which is many times the area of any contact surface developed in use.

Leakage current is important because of the secondary hazards it may cause. If the gloves or sleeves permit a few thousandths of an ampere of current to flow through the man's arms, the resulting sensation of tingle or shock, not harmful in itself and perhaps far below the value which begins to produce involuntary muscular contraction, may yet result in a surprised start which will bring the man against an electrified part he would not touch otherwise, or even cause him to slip and fall from an elevated working position. The specifications adopted keep the leakage current to an imperceptible value for any ordinary surface area of contact.

Mechanical strength, electrical resistance, minimum thicknesses, and dimensions are some of the characteristics that have been investigated, selected, and specified in the new American War Standard specifications for linemen's protective equipment. The minimum performance specifications were selected so that either natural or synthetic rubber, or a combination of both, can be used. The committee in charge of the work includes the following:

Gordon Thompson, Electrical Testing Laboratories, Inc, *Chairman*  
R. P. Blake, Division of Labor Standards, U. S. Department of Labor  
H. F. Brown, New York, New Haven and Hartford Railroad  
C. R. Chace, The Travelers Insurance Company  
T. R. Claffy, W. H. Salisbury & Company  
J. B. Davies, Mine Safety Appliances Company  
D. A. Fleming, U. S. Department of Agriculture, Rural Electrification Administration  
Roy M. Godwin, Philadelphia Electric Company  
S. S. Hall, Surety Rubber Company  
Karl Herbruck, Wilson Rubber Company  
C. D. Hocker, Bell Telephone Laboratories, Inc (W. H. S. Youry, Alternate)  
Stewart J. Owen, Jr, National Bureau of Standards, U. S. Department of Commerce  
B. S. Reid, International Brotherhood of Electrical Workers  
Hervey S. Vassar, Public Service Electric & Gas Company  
S. E. Whiting, Liberty Mutual Insurance Company

Walter H. Beidatsch, Office of Civilian Requirements, War Production Board; Robert C. Dabney, Office of Rubber Director, War Production Board; Clifford E. Granger, Rubber Products Standards, Office of Price Administration; Milton Hammer, Safety and Technical Equipment Division, War Production Board; and H. R. Richardson, Conservation Division, War Production Board, took part in a liaison capacity in the committee's work for the respective governmental agencies.

Copies of the American War Standard Specifications for Linemen's Rubber Protective Equipment (Line Hose, Insulator Hoods, Leather Protector Gloves, Rubber Blankets, and Sleeves), J6.1-1945, J6.2-1945, J6.3-1945, J6.4-1945, and J6.5-1945, in one volume, are available from the American Standards Association at 30 cents.

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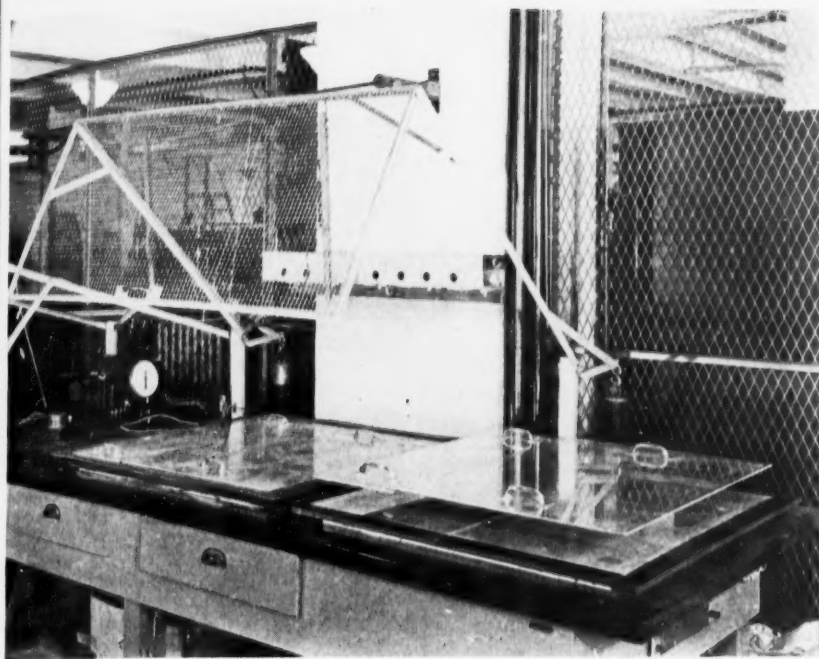
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**Proof-Voltage Test of Protective Blankets**

Blanket lies at left between electrodes with rounded edges. Insulating frame around lower electrode supports protruding edges of blanket to avoid corona cutting at edges of electrodes. Guard will be lowered when test voltage is to be applied.

by the line gang in their use of these devices. The National Safety Council could make a very helpful contribution to the industry by formulating standard procedure in the use of linemen's protective equipment whereby safe operating voltage could be related to the measure of safety supplied by devices of a given voltage rating.

These specifications, then, covering respectively line hose, insulator hoods, leather protector gloves, blankets, and sleeves, have been formulated with the above principles and aims in mind. It is believed that they will be welcomed in the industry both because they set up useful purchase specifications where no generally recognized specifications existed before, and because production of material in conformity with these specifications ought presently to be attended by a reduction of the

hazard to the men who use them.

It is not amiss to repeat what was stated at the beginning. These specifications were formulated by a War Committee who worked under the the knowledge that rubber supplies were scanty. Nevertheless the devices concerned were protective in purpose and the approach to the task by every member of the Committee was therefore essentially that made in preparing the specifications for linemen's rubber gloves perhaps 20 years ago: What are the performance requirements that will provide the degree of safety we deem necessary? Having agreed upon these, let the producer use the materials and skills he can command to meet these requirements. It is believed that these requirements will still be valid when both old and new types of materials become available in unlimited quantities.

## New Specifications and Tests Recently Accepted by ASTM

SEVERAL important new specifications and testing procedures for widely used materials were accepted by the American Society for Testing Materials' Committee E-10 on Standards at its August 27

meeting. Also, numerous revisions were approved for publication in existing formal standards and tentatives. Groups of recommendations came from technical committees on electrical deposited metallic coat-

ings; metal powders and powder products; paint, varnish, lacquer, and related materials; shipping containers; and water for industrial uses; also from the committee responsible for methods of chemical analysis of metals.

All of these specifications, both new and revised, will be published by the Society during the fall, and in addition to being available separately will be included in the 1945 Supplement to the *ASTM Book of Standards* which will be issued late in December.

### Electrodeposited Coatings

While the new specifications covering coatings of lead on steel are essentially the same as the Emergency ES-31, they have been revised and modernized. Six types of coatings are covered, with thickness ranging from 0.0010 inches to 0.00055. The tests which are specified include the salt spray (B 117); thickness, requirements on number of tests, selection of samples, etc.

The new Specifications for Chromate Finishes on Electrodeposited Zinc Hot-Dipped Galvanized, and Zinc Die-Cast Surfaces (B 201-45) provide requirements for such finishes as are produced by chemical or electrochemical methods from solutions containing chromates or chromic acid. The specifications cover only the protective value of the supplemental films and not the other properties or their composition or method of application. The revised Specifications for Electrodeposited Coatings of Nickel and Chromium on Steel (A 166) include a fourth type of coating with a minimum thickness for copper plus nickel of 0.0020 inches. Also revised, the ASTM Test Methods A 219 now include the less accurate but commercially used magnetic methods and the dropping test. Other revised specifications cover coatings of nickel and chromium on zinc and zinc-base alloys (B 142); recommended practice for chromium plating on steel for engineering use (B 177); and coatings of nickel and chromium on copper and copper-base alloys (B 141).

### Metal Powders and Metal Powder Products

Committee B-9 on Metal Powders and Metal Powder Products is one of the newer technical groups of the Society and the new tentative specifications covering metal powder sintered bearings (oil impregnated)



(B 202) are its first recommendation. The committee has held numerous meetings to discuss its work and get it on a sound technical basis, and additional methods and specifications are expected from time to time. In the new tentative two types of bearings are provided for: bronze-base and iron-base, with two classes in each. There has been evident a real need for specification requirements and Committee B-9 feels this new ASTM tentative will be helpful, the ASTM announces.

#### Paint, Varnish, Lacquer, and Related Products

Of the three new methods developed by Committee D-1 on Paint, Varnish, Lacquer, and Related Products, one is a test for evaluating degree of resistance of traffic paints to abrasion (D 821); another gives procedures for producing films of uniform thickness of organic finishing materials on test panels (D 820) and the third is a recommended practice for operating light and water exposure apparatus (carbon-arc type) for testing paint, varnish, lacquer, and related products (D 822). The traffic paint abrasion test is based on the use of photographic reference standards and the four illustrations give degrees ranging from two to eight. The method indicates that while gradings between the standards may be interpolated, the accuracy by visual means would not warrant interpolations in less than unit steps, the ASTM explains.

The method for producing films of uniform thickness of organic finishing materials on test panels (D 820) has three procedures: An automatic spraying machine which makes use of a spray gun moved over the test panel at an arbitrarily selected rate; an automatic dip coater which includes a mechanism to withdraw a panel from a tank at a predetermined rate; and an automatic doctor blade applicator which under carefully prescribed conditions consists of a doctor blade which is filled with the paint and is then allowed to slide down an inclined test panel. The other new Committee D-1 method (D 822) is intended to establish means for uniform operation of light and water exposure apparatus of the carbon-arc type, which is sometimes referred to as accelerated or artificial weathering apparatus.

Numerous revisions were accepted in various pigment specifications and other paint material standards as de-

tailed in the 1945 preprinted report of the committee. These changes will bring the specifications more up to date and in some instances permit a small percentage of surface-treating agents. The materials involved include: pure chrome green, chrome oxide green, Prussian blue, ultramarine blue, titanium dioxide pigments, bone black, carbon black, lampblack. Other materials covered by existing standards which were revised include alkyd resin solutions (D 563); house paints and enamel-type paints (D 562); preparation of steel panels for exposure tests of enamels (D 609).

#### Shipping Containers

Because of the intense interest in shipping containers and the desirability of having standardized methods of testing, ASTM Committee D-10 on Shipping Containers was reorganized earlier this year and has several methods under study, two of which have now been issued as ASTM tentatives covering compression testing and a drop test. These methods, D 642, compression, and D 775, drop, have been issued as revisions of two existing tests which, however, applied only to fiberboard containers.

#### Industrial Waters

Committee D-19 on Water for Industrial Uses has issued several standard methods of determining various elements and ions in industrial waters and the three new methods accepted by the Society cover total aluminum and aluminum ion in industrial waters (D 857), manganese (D 858), and silica (D 859). In general these methods are intended to provide procedures from which the quality of water may be judged and to control water treatment operations. The method for silica is particularly important in boiler operations so that measures can be taken to prevent the formation of complex silicate scales and to reduce the tendency of the "embrittlement" of boiler metal. The new tentative recommended practice for sampling boiler water for stationery boilers (D 860) is another phase in the program to establish recognized methods for sampling in order to obtain the necessary analytical information to judge the quality of water.

**Tests for Dissolved Oxygen in Industrial Waters.**—Numerous technical papers and reports have covered procedures for testing for dissolved

oxygen and after considerable study the subcommittee concerned proposed a standard test which included a method for referee and three non-referee procedures. The method of highest precision and accuracy was intended for acceptance testing of de-aerating and for research testing of power plant equipment. It is essentially the so-called Navy method which has been described in papers by Dr. R. C. Adams and others. Non-referee method B is based on the Schwartz-Gurney Method as modified by Ulmer.

In the referee method it is indicated that a skilled operator can obtain a precision of 0.002 ppm and with an accuracy of 0.003 ppm or 1 per cent, whichever is the greater. Precision for the non-referee methods ranges from 0.004 ppm to 0.05 ppm of the true values. Because of numerous comments and some negative votes, it is planned to publish the proposed methods as information and for comment in the *ASTM Bulletin*. All those concerned are invited to study the methods and submit comments to Committee D-19 for consideration.

#### Methods of Chemical Analysis of Metals

Two new methods involving determination of certain elements in metals were accepted through the work of ASTM Committee E-3 on Methods of Chemical Analysis: one, E 58, gives new standards for checking bismuth in pig lead based on modern technique; the other method to be part of the extensively used chemical analysis of steel, E 30, covers the determination of nitrogen.

In connection with the photometric methods for bismuth in lead the committee has virtually completed another proposed tentative which would give requirements on apparatus, equipment, etc., used in photometric procedures to which references will be made in the new Method E 58.

The analytical procedure for nitrogen resulted from extensive cooperative research in the committee whereby the proposed test was compared by several members with different procedures in use including in some cases their own modifications. As a result of work on eleven steels and alloys containing nitrogen from about 0.234 to 0.0046 per cent the new methods were demonstrated to be satisfactory, the American Society for Testing Materials reports.

# NBS Acts on Standards and Recommendations

## Commercial Standards

Announced by the Division of Trade Practice,  
National Bureau of Standards

### Men's Sport Shirt Sizes—Woven Fabrics (Other than those marked with regular neckband sizes), CS 128-45—

A Commercial Standard intended to establish a degree of standardization for men's sport shirts has been accepted by a satisfactory majority of manufacturers, distributors, and users, the Division of Trade Standards announces. The standard covers size designations, methods of measuring, and standard minimum measurements for men's sport shirts, in sizes marked small, medium, medium large, and large, or alternate sizes marked 1, 2, 3, and 4, whether made from shrunk or unshrunk woven material. There is also included a recommended label for guaranteeing conformity to the standard. The standard is effective for new production from September 20, 1945. Mimeographed copies are now available from the Division of Trade Standards, National Bureau of Standards, Washington 25, D.C.

### Reflectance Standards—

Sets of white, gray, and black porcelain enameled standards of 45 degree 0 degree directional reflectance are now being issued by the National Bureau of Standards. These reflectance standards are intended primarily to be used with reflectometers in measuring paints, papers, textiles, cer-

amic products, and other opaque materials for reflectance and approximate color by the photoelectric tristimulus method. The new standards have been made from 4 by 4 inch steel panels with folded edges that minimize warpage during enameling. Each set consists of 10 panels with coatings which diffusely reflect approximately 80, 70, 60, 40, 20, 15, 8, 4, 0.8, and 0.5 percent, respectively, of the light that strikes them. Each panel is calibrated for 45 degree 0 degree directional (or apparent) reflectance. A report is issued with every set describing its calibration. The sets are available to non-government agencies for \$50.

### Self-Contained Mechanically Re- frigerated Drinking Water Coolers, CS 127-45—

After numerous adjustments an acceptable standard has been evolved by the Bureau for the establishment of uniform methods of testing, rating, and designating capacity of self-contained mechanically refrigerated drinking water coolers. It provides definitions, general requirements, method of rating, standard rating conditions, recommended normal standard sizes and minimum capacities, and uniform guarantees of ratings of self-contained mechanically refrigerated drinking water coolers of the insulated storage and instantaneous types, air-cooled or water-cooled. It is

hoped that this standard will serve as a means for better understanding between manufacturers, distributors, contractors, and users by providing a uniform basis for fair competition. The standard will be effective for new production in February, 1946.

### Color Materials for Art Education in Schools, Proposed Commer- cial Standards TS-3961—

Following a proposal by The Crayon, Water Color and Craft Institute, a Commercial Standard for Color Materials for Art Education in Art Schools has been drawn up by the National Bureau of Standards and distributed among interested organizations for consideration. The purposes of this proposed standard are to provide a guide to school authorities in the purchase of color materials for art education in schools, as to satisfactory color, working properties, and durability; to eliminate confusion in nomenclature; to promote fair competition among manufacturers by providing criteria for differentiation among materials of known satisfactory composition and others considered unsuitable for art education in schools, and thus to provide a basis for certification of quality, the Bureau announces. This standard has been adjusted with the cooperation of art teachers, testing laboratories, and manufacturers, and has been endorsed by purchasing organizations such as the Association of School Business Officials. Further information concerning it can be obtained from the Division of Trade Standards, National Bureau of Standards, Washington 25, D. C.

## Proposed Simplified Practice Recommendations

Announced by the Division of Simplified Practice,  
National Bureau of Standards

### Asphalt and Tarred Roll Roofing and Saturated Felt Products, R213

This Simplified Practice Recommendation has been approved for promulgation and will be designated as R213-45. It will become effective following revocation of the War Production Board restrictions on the manufacture of these products. The recommendation covers smooth and mineral surfaced roll roofing, roll siding, and saturated felt for stock production and distribution. It is expected that acceptance of this Simplified Practice Recommendation would relieve industry of some of the burden of excessive variety and enable it to better meet the anticipated heavy demands of the post-war period. Until printed copies are available, mimeographed copies may be obtained from the division of Simplified Practice, National Bureau of Standards, Washington 25, D.C.

### Machine, Carriage and Lag Bolts, R169—

A proposed revision of Simplified Practice Recommendation R169-37, Machine, Carriage and Lag Bolts has been confirmed for promulgation and will be identified as R169-45. It is to be effective from October 1, 1945.

As initially promulgated in 1937, this

recommendation included a simplified list of stock-production sizes and types for carriage, machine, and lag bolts. The revision also covers stock-production nominal sizes and types for step, elevator, and tire bolts as well as regular, heavy, and light nuts, machine screw nuts, and milled studs. General acceptance and adherence to the simplified lists will make it possible to achieve the highest type of economical manufacture as a result of longer runs of a given size or type, less stock to handle, saving of storehouse space, and avoidance of numerous changes of machinery in the production of small quantities, the Bureau states. Mimeographed copies of the revised recommendation may be obtained upon request to the Division of Simplified Practice, National Bureau of Standards, Washington 25, D.C.

### Hot-Rolled Carbon-Steel Structural Shapes—

A voluntary Simplified Practice Recommendation for Hot-Rolled Carbon-Steel Structural Shapes, as proposed by the American Iron and Steel Institute, has been made available to all interests for their consideration, comment, and approval. The proposal covers the nominal sizes, and weights per linear foot of sections; beams; stanchions; joists; channels; angles; tees;

and zeos. Sections and angles used in car-building and shipbuilding are included. The purpose of this program is to establish a voluntary Simplified Practice Recommendation which lists those structural shapes that have the greatest usage. Such a simplified list was used during the war with widespread advantage to all concerned. Among the benefits expected from the general adoption of this recommendation are: increased production through less frequent roll-changes in the mills; reduction in the inventories of fabricators, warehouses, and manufacturers; and improved service to the ultimate consumer. The readers of this announcement are invited to make known their interest, by writing to the Division of Simplified Practice, National Bureau of Standards, Washington 25, D.C.

### Hack-Saw Blades, R90—

A revision of Simplified Practice Recommendation R90-36, Hack-Saw Blades, has been proposed by the Division of Simplified Practice of the National Bureau of Standards and sent out to interested groups for consideration and acceptance. As of 1936 this recommendation covered standard tungsten and carbon blades, high-speed blades, and special alloy blades. The revision now proposed would include the addition of stock sizes for coarse-tooth and broach blades. The blades are designated by different type names from those in R90-36 and definitions of types have been added. Copies of this proposed revision are available upon request.

# ASA Standards Activities

## American Standards

### American Standards Approved Since Our September Issue

Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1-1945  
Basis for the Coordination of Masonry, A62.2-1945  
Method of Compiling Industrial Injury Rates, Z16.1-1945 (Revision of Z16.1-1937)

### Standards Being Considered by ASA for Approval

Automatic Stations (Revision of C37.2-1937)

*Sponsor:* Electrical Standards Committee

#### *Gas Burning Appliances:*

Approval Requirements for Central Heating Gas Appliances (Revision of Z21.13-1943)

Approval Requirements for Domestic Gas Ranges (Revision of Z21.1-1942)

Approval Requirements for Gas Space Heaters (Revision of Z21.11-1942)

Approval Requirements for Gas Water Heaters (Revision of Z21.10-1944)

Listing Requirements for Low Water Cutoff Devices, Z21.36

*Sponsor:* American Gas Association  
Inspection of Elevators, Inspectors' Manual, A17.2-1937

*Sponsors:* American Institute of Architects; American Society of Mechanical Engineers; National Bureau of Standards, U. S. Department of Commerce

Method of Compiling Industrial Injury Rates (Revision of Z16.1-1937)

*Sponsor:* National Safety Council  
Method of Test for Accelerated Aging of Vulcanized Rubber by the Oven Method (Revision of ASTM D 573-42; ASA J5.1-1943)

Methods of Test for Coarse Particles in Pigments, Pastes, and Paints (Revision of ASTM D 185-37; ASA K42-1937)

Specifications for Copper-Base Alloy Forging Rods, Bars and Shapes (Revision of ASTM D 124-427; ASA H7-1939)

Specifications for Copper Water Tube (Revision of ASTM B 88-41; ASA H23.1-1941)

Specifications for Free-Cutting Brass Rod and Bar for Use in Screw Machines (Revision of ASTM B 16-44; ASA H8.1-1944)

Test for Carbonizable Substances in Paraffin Wax (Revision of ASTM D 612-43; ASA Z11.50-1943)

Test for Carbonizable Substances in White Mineral Oil (Liquid Petrolatum) (Revision of ASTM D 565-43; ASA Z11.49-1943)

Test for Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products (Revision of ASTM D 86-40; ASA Z11.10-1940)

Test for Flash and Fire Points by Means of Open Cup (Revision of ASTM D 92-33 ASA Z11.6-1933)

Test for Knock Characteristics of Motor Fuels (Revision of ASTM D 357-44; ASA Z11.37-1944)

### Standards Being Considered—(Continued)

Test for Saponification Number of Petroleum Products by Color-Indicator Titration (Revision of ASTM D 94-44; ASA Z11.37-1944)

*Sponsor:* American Society for Testing Materials

Pipe Threads (Revision of B2.1-1942)

*Sponsors:* American Gas Association; American Society of Mechanical Engineers

### Standards Submitted to ASA for Approval

Code for Explosion and Fire Protection in Plants Producing or Handling Magnesium Powder or Dust (Revision of Z12.11-1942)

Code for the Installation of Pulverized-Coal Systems (Revision of Z12.1-1942)

Code for the Prevention of Dust Explosion Hazards in the Plastics Industry

*Sponsor:* National Fire Protection Association

Methods of Testing Shellac Used for Electrical Insulation, ASTM D 411-44 (Revision of ASA C59.18-1944)

Vulcanized Fibre, NEMA

*Sponsor:* American Society for Testing Materials

### Standards Submitted to ASA for Reaffirmation

Rubber Insulating Tape, Specifications for (ASTM D 119-38; ASA C59.6-1939)

Rubber Matting for Use Around Electrical Apparatus or Circuits not Exceeding 300 Volts to Ground, Specifications for (ASTM D 178-24; ASA C59.6-1935)

Testing Molding Powders Used in Manufacturing Molded Electrical Insulators, Methods of (ASTM D 392-38; ASA C59.10-1941)

## American War Standards

### American War Standards Approved Since Our September Issue

Photographic Filter Terminology and Nomenclature, Specification for, Z52.61-1945

### War Standards Under Way

Cylindrical Fits, B4.1

Manual of Standard Drawing Practice, Z14

Section A. Foreword

Section C. General Drawing Practice

Subsection 1. Projection

Subsection 2. Line Conventions

Subsection 3. Sections and Sectioning Conventions

Subsection 4. Scales

Subsection 5. Lettering

Subsection 6. Thread Conventions and Method of Specifying

Section D. Drawing Forms

Subsection 1. Sizes

### War Standards Under Way—Manual for Drawing Practice—(Continued)

Section G. Dimensioning and Placing Tolerances on Drawings

Section H. Finishes

Section J. Symbols

Section K. Abbreviations

Machine Tool Electrical Standards (Revision of C74-1942)

Photography and Cinematography, Z52

### Motion Picture Cameras

Distance Calibration of 16-Mm Motion Picture Camera Lenses, Z52.51

Field of View of 16-Mm Motion Picture Camera View Finders Having Parallax Adjustment, Z52.49

Mounting Dimensions for 16-Mm Camera and Recorder Film Magazines (400-Foot Gear-Driven Type), Z52.52

Mounting Dimensions for 16-Mm Camera and Recorder Magazines (200-Foot Belt-Driven Types), Z52.66

Mounting Dimensions for 16-Mm Camera and Recorder Magazines (400-Foot Belt-Driven Type), Z52.67

Photographing Aperture of 16-Mm Sound Motion Picture Cameras, Z52.47

Photographing Aperture of 16-Mm Silent Motion Picture Cameras, Z52.48

Registration Distance and Mounting Dimensions of 16-Mm Motion Picture Camera Lenses, Z52.50

### Motion Picture Projection Equipment

Class II Service Model 16-Mm Sound Motion Picture Projection Equipment, Specification for, Z52.13

### Motion Picture Release Prints

Leaders, Cues, and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material, Z52.31

Printer Loss in 16-Mm Sound Motion Picture Prints, Method of Determining, Z52.40

### Motion Picture Test Films

Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment, Specification for, Z52.32

### Photographic Filter

Terminology and Nomenclature, Z52.61

### Still Cameras

Exposure Markings for Between-the-Lens Shutters, Z52.62

Exposure Markings for Focal Plane Shutters, Z52.64

Exposure Time of Focal Plane Shutters, Method of Determining, Z52.65

Performance Characteristics of Between-the-Lens Shutters, Method of Determining, Z52.63

### Still Printing Equipment

Enlarger, Photographic, Specification for, Z52.23

Radio Noise, Methods of Measuring, C63  
Safety Code for the Industrial Use of X-Rays

Electrical Protection, Part VI  
Methods and Materials of X-Ray Protection, Part III



Specific Applications for 400 Kv and Lower, Part IV  
Specific Applications of One and Two Millions, Part V  
Use and Storage of Radium in the Field of Industrial Radiography, Part II

Screw Threads, B1  
Buttress Threads  
High-Duty Studs in Light Alloys  
Instrument Threads  
Stub Acme Threads  
Unification of Screw Threads

Women's Industrial Clothing  
Jackets for Outdoor Wear (Slide-fastener Closure), L17.6  
Jackets for Outdoor Wear (Fly-type Button Closure), L17.5

Wood Poles, O5  
Miscellaneous Conifers  
Ultimate Fiber Stresses of Wood Poles, O5aWS

## British Commerce Group Wants Decimal Coinage

The Association of British Chambers of Commerce recently advocated a change in British coinage to a decimal system.

The present system of coinage is 12 pence to the shilling, and 20 shillings to the pound (\$4.00).

The resolution, approved by a large majority, also urged adoption of the metric system in Britain and suggested appointment of a government committee to consider the changes.

Advocates of the coinage change said an ever-growing volume of time was wasted in making conversions from one system and measurements to another. Britain is the only European country without a decimal system of coinage and measurement.

## 1945 Edition of Gypsum Concrete Standard

A new edition of the American Standard Building Code Requirements for Reinforced Gypsum Concrete has now been made available. In addition to minor editorial changes, the new code includes a provision that the top of the floor or roof slabs shall be not less than 1/2 in. above the floor or roof beams, and that the wires shall be encased in the gypsum. The new edition, prepared under the joint sponsorship of the Gypsum Association and the Building Officials Conference of America, replaces the edition of 1941.

The American Standard Building Code Requirements for Reinforced Gypsum Concrete, A59.1-1945, is available from the American Standards Association at 25 cents.

## Single Standard Proposed For Measuring Paper

A recommendation has been made to the National Bureau of Standards for the adoption of the "1000 square inch-1000 sheet" basis as the standard for measuring and counting all paper. The request, agreed to unanimously by the production managers of the nation's leading magazines, would replace the present seventeen different bases. It would establish one basic size and number of sheets for counting and measuring paper, based on a 1000 sheet count and a theoretical 1000 square inch area.

The action was taken by the Association of Publication Production Managers after a poll of its entire membership. It places the nation's largest group of book paper consumers in support of a standardization proposal which dates back to World War I. If this new basis for measuring and counting paper is adopted, it should, this group believes, vastly simplify all measurement, handling, purchasing, and record keeping connected with paper transactions, since the old weights and measures have long been regarded as obsolete and confusing.

The Committee on Simplified Practice for the Basic Sheet Sizes of Paper of the National Bureau of Standards is expected to take affirmative action on the proposal shortly, the Association announces.

## ASA Annual Meeting To Be December 7

The Annual Meeting of the American Standards Association will be held at a luncheon at the Hotel Biltmore, New York, December 7. All Member-Bodies and Company Members of the American Standards Association are invited.

Before the general luncheon meeting, the Board of Directors will hold its Annual Meeting for election of officers Thursday afternoon December 6; and the Standards Council will meet in the morning of December 7.

## Labeling Variations

A survey of labels and an analysis of vitamin content of 48 prepared cereals by the Department of Biochemistry at the University of Wisconsin has revealed variations in labeling of nutritional content. Such variations burden housewives with unnecessary marketing problems, *Consumer News Digest* reports.

Excellent progress by the companies in improving and standardizing vitamin content was noted.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

OF INDUSTRIAL STANDARDIZATION, published monthly at New York, N. Y., for Oct. 1, 1945.  
State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Ruth E. Mason, who, having been duly sworn according to law, deposes and says that she is the editor of the INDUSTRIAL STANDARDIZATION and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Standards Association 70 East 45th Street, New York 17, N. Y. Editor, Ruth E. Mason, 70 East 45th Street, New York 17, N. Y. Managing Editor, none. Business Managers, none.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) American Standards Association, 70 East 45th Street, New York 17, N. Y. Henry B. Bryans (Executive Vice-President, Philadelphia Electric Company, Philadelphia, Pa.) President, 70 East 45th Street, New York 17, N. Y. P. G. Agnew, Secretary, 70 East 45th Street, New York 17, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is..... (This information is required from daily publications only.)

RUTH E. MASON,  
Editor.

Sworn to and subscribed before me this 19th day of September, 1945.  
(Seal)

LYDA I. SJOHOLM.  
(My commission expires March 30, 1947.)

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